FIGURE 3:

```
      ┌─────────┐  E1
      │  MAIN   │
      │  MENU   │
      └────┬────┘
           │
           ▼
      ┌─────────┐  30
  ┌──▶│ "Select │
  │   │ Desired │
  │   │Function"│
  │   └────┬────┘
  │No      │
  │        ▼
  │   ╱─────────╲  31
  │  ╱  DB-User  ╲
  │  ╲  Selects  ╱
  │   ╲─────────╱
  │        │
  │        ▼
  │      ╱─────╲  32
  │     ╱ Valid ╲
  │     ╲Function?╱
  │      ╲─────╱
  │        │
  │       Yes
  │        │
  │        ▼
  │     ╱─────╲  33                ╱──────╲  34
  │    ╱ User   ╲      Yes        ╱Function ╲
  │    ╲permitted?╲──────────────▶╲Requested?╱
  │     ╲─────╱                    ╲──────╱
  │        │
  │        No
  │        │
  │        ▼
  │   ┌─────────┐
  └───│"User not│
      │permitted"│
      └─────────┘
```

Right column boxes:

- Look-Up Processes — E2
- Add Processes — E3
- Modify Processes — E4
- Delete Processes — E5
- Report Processes — E6
- Misc. Processes — E7
- End Session — E9

FIGURE 4:

```
                    ┌──────────────┐  E2
                    │ Look-Up      │
                    │ Processes    │
                    └──────────────┘
                            │
                            ▼
                    ╭──────────────╮   40
          ┌────────▶│  "Select     │
          │         │  Lookup      │
          │         │  Type"       │
          │         ╰──────────────╯
          │                 │
          │                 ▼
          │         ╱──────────────╱   41
      No  │        ╱  DB-User      ╱
          │       ╱   Selects     ╱
          │      ╱──────────────╱
          │                 │
          │                 ▼
          │            ◇ 42              ┌──────────────┐
          │          Valid Type?        │   Device     │
          │            ◇                │   Look-Up    │
          │            │                └──────────────┘
          │           Yes
          │            │                ┌──────────────┐
          │            ▼                │   Location   │
          │         ◇ 43      44 ◇      │   Look-Up    │
          │      DB-User    ─Yes─▶ Type └──────────────┘
          │      Allowed?       Requested?
          │         ◇              ◇──▶ ┌──────────────┐
          │         │                   │   Device-    │
          │        No                   │   User       │
          │         │   43A             │   Look-Up    │
          │         ▼                   └──────────────┘
          │    ╭──────────╮
          └────│ "DB-User │             ┌──────────────┐
               │  not     │             │   Order      │
               │Authorized"│            │   Look-Up    │
               ╰──────────╯             └──────────────┘

                                        ┌──────────────┐
                                        │   Other      │
                                        └──────────────┘
```

FIGURE 5:

45

Enter Serial
# of Device

48

Invalid
Serial #

46

DB-User
enters
serial #

HotLink

47

Serial #
exists?

No

Yes

49

Printable
screen display

Location
Look-Up

—Hot Link—

Hot Link

User
Look-Up

Hot Link

Main Menu

Hot Link

Look-Up
Processes

FIGURE 6:

```
                              ┌─────────────┐   50
                              │   "Enter    │
                              │ Location ID"│
                              └─────────────┘
                                     │
                                     ▼
                              ╱─────────────╲   51
                             ╱   DB-User     ╲
                            ╱     enters      ╲
                            ╲    location     ╱
                             ╲───────────────╱
                                     │
                                     ▼
       ┌─────────────┐          ◇─────────◇   52
       │  Invalid    │◄──No──  ◇   Valid   ◇
       │ Location ID │          ◇ Location? ◇
       └─────────────┘          ◇─────────◇
                                     │
                                    Yes
                                     │
                                     ▼
       ┌─────────────┐          ◇─────────◇   53
       │ "DB-User    │          ◇ DB-User   ◇
       │    not      │◄──No──  ◇ authorized?◇
       │ authorized" │          ◇─────────◇
       └─────────────┘               │
                                    Yes
                                     │          54
                                     ▼
                              ┌─────────────┐
                Hot Link──────│  Printable  │──────┐
                              │   screen    │      │
                              │   display   │   Hot Link
                              └─────────────┘
                    │              │
                    │           Hot Link
                    ▼              ▼              ▼
       ┌─────────────┐      ┌─────────────┐  ┌─────────────┐
       │   Device    │      │  Main Menu  │  │   Device-   │
       │   Look-Up   │      │             │  │    User     │
       │             │      │             │  │   Look-Up   │
       └─────────────┘      └─────────────┘  └─────────────┘
```

FIGURE 7:

```
                              ┌──────────┐
                              │ "Enter    │ ── 60
                              │ Device-   │
                              │ User ID"  │
                              └────┬─────┘
                                   │
                              ┌────▼──────┐
                              │ DB-User   │ ── 61
                              │ enters    │
                              │ Dev-User  │
                              └────┬──────┘
                                   │
    ┌──────────┐            ┌─────▼─────┐
    │ Invalid   │◄── No ────│ Valid Dev- │ ── 62
    │ Device-   │           │ User?      │
    │ User ID   │           └─────┬─────┘
    └──────────┘                  │
                                 Yes
                                  │
    ┌──────────┐            ┌─────▼─────┐
    │ "DB-User  │◄── No ────│ DB-User    │ ── 63
    │ not       │           │ authorized?│
    │ authorized"│          └─────┬─────┘
    └──────────┘                  │
                                 Yes
                                  │
                            ┌─────▼────────┐
    Hot Link ───────────────│ Printable     │─────── Hot Link
                            │ screen display│ ── 64
                            └──────┬────────┘
                                Hot Link
```

Hot Link   Printable screen display   Hot Link

| Device Look-Up | Main Menu | Location Look-Up |

FIGURE 8:

65

"Enter Order or System"

66

DB-User enters request

67

Valid Order or System?

"Invalid Order or System" ◄─No─

Yes

68

DB-User authorized?

"DB-User not authorized" ◄─No─

Yes

69

Printable screen display

─Hot Link─

Hot Link

Hot Link

Hot Link

Device Look-Up

Device-User Look-Up

Main Menu

Location Look-Up

FIGURE 9:

Enter request for information — **70**

DB-User enters data — **71**

"Invalid Input" ←No— Valid Input? — **72**

Yes

"DB-User not authorized" ←No— DB-User authorized? — **73**

Yes

Printable screen display — **74**

Main Menu

FIGURE 10:

FIGURE 11:

Select Type of Device Addition **82**

DB-User selects **83**

Valid Function? **84**

No → "DB-User not authorized"

Yes

DB-User authorized? **85**

No → "DB-User not authorized"

Yes

"Enter new device data" **86**

DB-User enters info **87**

"Invalid data"

Valid Data? **88**

No

Yes

System adds device(s) **89**

"Add more devices?" **90**

DB-User selects **91**

Continue? **92**

Yes

FIGURE 12:

Enter new location info — 94

DB-User enters data — 95

Valid data entry? — 96

No ←

Yes ↓

Enter lock type & DHI — 97

"Invalid data"

DB-User enters info — 98

No

Valid Data? — Yes

System adds location — 99

"Add more devices?" — 100

DB-User selects — 101

Continue? — Yes → (back to Enter new location info)

FIGURE 13:

102 "Select Type User Addition"

103 DB-User selects

104 Valid Function?

No → (loop back to 102)

Yes

105 Type Addition? → **DB-User Addition Process**

Keyholder Addition

106 DB-User authorized?

No

"DB-User not authorized"

107 Enter new Device-User data

108 DB-User enters info

109 Valid Data? → No → **"Invalid data"**

Yes

110 System adds User

111 "More Device-Users?"

112 DB-User selects

113 Continue?

Yes (from 105 to 107)

Yes (113 loops back to 107)

No (113)

FIGURE 14:

```
                          ╭───────╮  ╱ 120
                          │ "Enter│ ╱
                          │ Order"│
                          ╰───┬───╯
                              │              ╱ 121
                              ▼            ╱
                        ╱──────────╲      ╱          ╭──────────╮  ╱ 126
                       ╱  DB-User   ╲    ╱           │ "Enter   │ ╱
                      ╱   enters      ╲──            │ device   │
                      ╲   header      ╱              │ config"  │
                       ╲─────┬───────╱               ╰────┬─────╯
                              │              ╱ 122             │        ╱ 127
   ╭─────────╮                ▼            ╱                   ▼      ╱
   │ "Invalid│◄─No──   ◇ Valid data? ◇                  ╱──────────╲ ╱
   │  data"  │              ◇        ◇                 ╱  DB-User   ╲
   ╰─────────╯                │                       ╱   enters     ╲
                              │                       ╲   config      ╱
                             Yes        ╱ 123          ╲─────┬───────╱
                              ▼       ╱                       │       ╱ 128
                        ╭──────────╮ ╱                        ▼     ╱
                        │ "Enter   │                    ◇ Valid device ◇──No──╮
                        │product(s)"│                   ◇   type?    ◇        │
                        ╰────┬─────╯                        │                 ▼
                             │      ╱ 124                    │         ╭────────────╮
                             ▼    ╱                         Yes        │ "Invalid   │
                       ╱──────────╲                          │         │device type"│
                      ╱  Select     ╲                        ▼  ╱ 129  ╰────────────╯
                     ╱   product      ╲               ◇ DB-User ◇
                     ╲   type          ╱              ◇authorized?◇──────Yes──
                      ╲─────┬─────────╱                   │
   ╭──────────╮             │      ╱ 125                 Yes    ╱ 130
   │  "Not    │◄─No──  ◇ DB-User ◇                        ▼   ╱
   │authorized"│       ◇authorized?◇──Yes         ╭────────────╮
   ╰──────────╯             │                     │  System    │
                           No                     │ processes  │
                                                  │ new device │
                                                  ╰─────┬──────╯
                                                        │      ╱ 131
                                                        ▼    ╱
                                                  ╭────────────╮
                                                  │ "More      │
                                                  │ devices to │
                                                  │  order?"   │
                                                  ╰─────┬──────╯
                                                        ▼
   "to Figure 14A" ◄─No──  ◇ More keys? ◇
```

FIGURE 14A:

"Cutting key locally or remote" **132**

Work Order **135**

Serial # recorded **136**

No

Connected cutter? **133**

Yes

Codes to cutter & key cut **134**

"Enter Serial #(s) all cut keys" **137**

DB-User enters serial # **138**

"Invalid serial #'s"

Valid/ inventoried keys? **139**

No

"Assign Keys"

Yes

DB-User assigns keys **140**

"Desire to add more orders?" **144**

More Orders?

Yes

No

"Print Reports" **141**

User selected reports **142**

Order Closed **143**

FIGURE 15:

150 "Enter System Data"

151 DB-User enters info

152 Valid Data?

No → "Invalid data"

Yes

153 System adds header info

158 Mathematical charts

157 Master key charts added

154 "Enter file-id"

"Invalid file or location"

155 DB-User enters file info

156 File Found?

No

Yes

FIGURE 16:

```
┌─────────────────┐
│ Delete          │
│ Processes       │
└─────────────────┘
        │
        ▼                    160
    ╭─────────────╮
    │ "What type  │
    │  delete?"   │
    ╰─────────────╯
        │                    161
        ▼
    ╱─────────────╲
   ╱  DB-User      ╲
   ╲  Selects      ╱
    ╲─────────────╱
        │                    162
        ▼
      ◇ Valid ◇
      ◇ Function? ◇
        │
       Yes    163              164
        ▼
   ◇ DB-User ◇  Yes→  ◇ Type ◇
   ◇ Authorized? ◇     ◇ Requested? ◇
        │
       No
        ▼
    ╭─────────────╮
    │ "Not        │
    │ Authorized" │
    ╰─────────────╯
```

Delete
Device

Delete
Location

Delete
User

Delete
Order

Delete
System

No

FIGURE 17:

```
┌──────────────┐
│ │ Modify │ │
│ │ Processes │ │
└──────────────┘
        │
        ▼
      170
   ╭─────────╮
   │ "What type │ ◄──────┐
   │  modify?" │         │
   ╰─────────╯          │
        │                │
        ▼                │
       171               │
    ╱─────────╱          │
   ╱ DB-User ╱           │  No
  ╱ Selects ╱            │
 ╱─────────╱             │
        │                │
        ▼                │
       172               │
     ◇─────────◇         │
    ╱  Valid   ╲─────────┤
    ╲ Function? ╱        │
     ◇─────────◇         │
        │ Yes            │
        ▼                │
       173      174      │
   ◇─────────◇    ◇─────────◇
  ╱ DB-User  ╲   ╱  Type    ╲
 ╱ Authorized?╲─Yes─╲Requested?╱
  ◇─────────◇    ◇─────────◇
        │ No
        ▼
   ╭─────────╮
   │ "Not    │
   │ Authorized"│
   ╰─────────╯
```

Modify Device

Modify Location

Modify User

Modify Order

Modify System

FIGURE 18:

```
┌─────────────┐
│  Reporting  │
│  Processes  │
└──────┬──────┘
       │
       ▼
   ╭─────────╮   180
   │ Display │
   │ menu of │
   │ reports │
   ╰────┬────╯
        │       181
        ▼
   ╱─────────╱
  ╱ DB-User ╱
 ╱  Selects ╱
╱─────────╱
        │       182
        ▼
     ◇ Valid ◇
     ◇Function?◇
```

No

Yes

DB-User
Authorized? 183   →Yes→   Type
                            Requested? 184

No

"Not
Authorized"

Report X

FIGURE 19:

```
┌─────────────┐
│ │ Misc.      │
│ │ Processes  │
└─────────────┘
       │
       ▼
   ╭─────────╮  190
   │ Display │
   │ menu of │
   │processes│
   ╰─────────╯
       │
       ▼
  ╱──────────╲  191
 ╱  DB-User    ╲
 ╲  Selects    ╱
  ╲──────────╱
       │
       ▼
   ◇─────────◇  192
  ╱  Valid    ╲──── Yes
  ╲ Function? ╱
   ◇─────────◇
       │
      Yes
       ▼
   ◇─────────◇  193
  ╱ DB-User    ╲
  ╲ authorized?╱
   ◇─────────◇
       │
       No
       ▼
   ╭─────────╮
   │  "Not   │
   │Authorized"│
   ╰─────────╯
```

No

◇─────────◇ 194
╱   Type   ╲
╲ Requested? ╱
◇─────────◇

┌──────────────┐ 195
│ DB-User   │
│ Maintenance │
│ Processes   │
└──────────────┘

┌──────────────┐ 196
│ Screen   │
│ Authorization│
│ Processes   │
└──────────────┘

┌──────────────┐ 197
│ Screen   │
│ Maintenance │
│ Processes   │
└──────────────┘

┌──────────────┐ 198
│ Repair &   │
│ Compact   │
│ Processes   │
└──────────────┘

┌──────────────┐ 199
│ Backup &   │
│ Restore   │
│ Processes   │
└──────────────┘

┌──────────────┐ 187
│ Data   │
│ Transmit   │
│ Processes   │
└──────────────┘

┌──────────────┐ 188
│ Timed   │
│ Activities   │
└──────────────┘

┌──────────────┐ 189
│ Other Misc. │
│ Processes   │
└──────────────┘

FIGURE 20:

```
                    ┌─────────────┐
                    │  DB-User    │
                    │   Maint.    │
                    │  Processes  │
                    └─────────────┘
                           │
                    ┌─────────────┐   200
                    │  DB-User    │
           ┌───────▶│  Selects    │◀──────────────────────────────┐
           │        │   Intent    │                               │
           │        └─────────────┘                               │
       No  │               │   201                                │
           │               ▼                                      │
           │          ◇─────────◇                                 │
           │         ╱  DB-User  ╲                                │
           └────────◇  Authorized? ◇                              │
                     ╲           ╱                                │
   Quit Deletions     ◇─────────◇                                 │
      203                  │ Yes      202          215            │
       │                   ▼                        ┌──────────┐  │
  ┌──────────┐        ◇─────────◇        Add       ╱ Display   ╲ │
  │ List of  │       ╱   Type    ╲──────────────▶ │ blank input │ │
  │ current  │◀─────◇  Function? ◇                 ╲   screen   ╱ │
  │ DB-Users │Delete ╲           ╱                  └──────────┘  │
  └──────────┘  204    ◇─────────◇                       │       │
       │                    │                       216  ▼       │
       ▼            Modify  │  Quit Modify         ┌──────────┐  │
  ┌──────────┐              │        209           │ DB-User  │  │
  │ DB-User  │         ┌─────────┐                 │ inputs   │◀─┐│
  │ Selects  │         │ List of │                 │  data    │  ││
  │  Intent  │         │ current │                 └──────────┘  ││
  └──────────┘         │ DB-Users│                       │       ││
       │   205         └─────────┘  210           217    ▼       ││
       ▼                    │                     ◇─────────◇    ││
  ◇─────────◇          ┌─────────┐               ╱   Input   ╲ No││
 ╱  Intent  ╲          │ DB-User │              ◇   Valid?    ◇──┘│
◇           ◇          │ Selects │               ╲           ╱    │
 ╲         ╱           │  Intent │                ◇─────────◇     │
  ◇───────◇            └─────────┘                     │ Yes      │
 Selected Record           │  211                      ▼          │
       ▼                    ▼                    ┌──────────┐     │
  ┌─────────┐          ◇─────────◇               │ DB-User  │     │
 ╱ "Are you ╲         ╱  Intent  ╲               │  Added   │─────┘
│   sure?"   │        ◇           ◇              └──────────┘
 ╲          ╱          ╲         ╱
  └────────┘            ◇───────◇
    206  │           Selected Record  212
         ▼                  │
  ◇─────────◇               ▼
 ╱ DB-User   ╲         ┌──────────┐      ┌──────────┐
◇  response?  ◇       ╱  Modify    ╲     │ DB-User  │
 ╲           ╱       │ screen used  │    │ Modified │
  ◇─────────◇         ╲ for editing ╱    └──────────┘
   207    │            └──────────┘           ▲
          │ Yes            │   213       Yes  │  214
          ▼                ▼            ◇─────────◇
  ┌─────────┐         ┌─────────┐      ╱   Input   ╲  No   ╱ Redisplay ╲
  │ DB-User │         │ DB-User │─────◇   Valid?    ◇────▶│  screen w/  │
  │ Record  │         │  makes  │      ╲           ╱      ╲   errors   ╱
  │ deleted │         │ changes │       ◇─────────◇        └──────────┘
  └─────────┘         └─────────┘
    208
```

Quit Deletions 203
List of current DB-Users
DB-User Selects Intent 204
Intent 205
Selected Record
"Are you sure?" 206
DB-User response? 207
Yes
DB-User Record deleted 208

No

Type Function? 202
Delete
Modify
Add

Quit Modify
List of current DB-Users 209
DB-User Selects Intent 210
Intent 211
Selected Record
Modify screen used for editing 212
DB-User makes changes 213
Input Valid? 214
No
Redisplay screen w/ errors
Yes
DB-User Modified

Display blank input screen 215
DB-User inputs data 216
Input Valid? 217
No
Redisplay screen w/ errors
Yes
DB-User Added

FIGURE 21:

```
┌─────────────────┐
│  Screen         │
│  Authorization  │
│  Processes      │
└─────────────────┘
         │
         ▼
    ╭──────────╮  220
    │ List of  │
──▶ │ current DB-│ ◀────────────┐
    │ Users    │                │
    ╰──────────╯                │
         │                      │
         ▼          221         │
   ┌──────────┐                 │
   │ DB-User  │         No      │
   │ Selects  │          │      │
   │ DB-User  │          │      │
   └──────────┘          │      │
         │               ▼      │
         ▼      222              │
      ◇───────────◇             │
      │ Authorized │            │
No ◀──│ this record?│           │
      ◇───────────◇             │
         │                      │
        Yes        223          │
         ▼                      │
    ╭──────────╮                │
    │ List of  │                │
    │ primary  │ ◀─Yes─ ◇─────────◇
    │ screens  │       │ Yes/No? │──No──▶
    ╰──────────╯        ◇─────────◇
         │                 ▲
         ▼      224        │
   ┌──────────┐       ╭──────────╮    ╭──────────╮
   │ Selects  │       │ "Select  │    │ Profile  │
Quit│ screen or│      │ more     │    │ Tables   │
   │ quit     │       │ screens?"│    │ Updated  │
   └──────────┘       ╰──────────╯    ╰──────────╯
         │                 ▲               ▲
         ▼      225        Yes─────────────┘
      ◇───────────◇
      │ Function  │    ◇─────────◇
      │ requested?│    │ Yes/No? │
      ◇───────────◇    ◇─────────◇
         │                 ▲
  Selected Screen     No   │
         │             │    │
         ▼             │  ╭──────────╮  229
   ╭──────────╮        │  │ "Are you │
226│ Primary  │        │  │ sure?"   │
   │ screen w/│ ◀──────┘  ╰──────────╯
   │ variations│             ▲
   ╰──────────╯              │
         │      227          │
         ▼                   │
   ┌──────────┐        ╭──────────╮  228
   │ Selects  │───────▶│ Display  │
   │ Variation│        │ Variation│
   └──────────┘        │ Screen   │
                       ╰──────────╯
```

FIGURE 22:

```
┌─────────────────┐
│     Screen      │
│  Maintenance    │
│   Processes     │
└─────────────────┘
         │
         ▼                     230
   ┌───────────┐
   │Display list│◄──────────Yes──────────┐        ┌─────────────┐
   │ of Primary │                        │        │  Main Menu  │
   │  screens   │                        │        └─────────────┘
   └───────────┘                         │              ▲
         │                               │              │ No
         ▼            231                │              │           240
      ◇─────────◇                        │         ◇─────────◇   ◇───────────◇
     │Screen or │──Quit──► Main Menu     └────────│ Yes/No? │◄──│  "More      │
     │  quit?   │                                  ◇─────────◇   │ variations?"│
      ◇─────────◇                                               ◇───────────◇
         │                                                           ▲
   Quit  │ Screen                                                    │ Yes
         ▼            232                    239                      │
      ┌──────────┐                      ┌─────────────┐              │
      │ Displays │                      │ Screen Files│─────────────┘
      │variations│                      │   Updated   │
      └──────────┘                      └─────────────┘
         │            233                                           238
         ▼                    234                                ◇─────────◇
      ◇─────────◇      ┌──No──────────────────┐                 │ Yes/No? │
     │Screen/add│     ◇───────────◇           │                  ◇─────────◇
     │ or quit? │──Modify─►│Variation │◄──────┐│                      ▲
      ◇─────────◇     │screen for │          ││        236            │
         │            │modification│◄────┐    ││   ┌───────────┐      │
         │             ◇───────────◇     │    │└──►│  DB-User  │      │
         │                   │           │    └───│ continues │      │
New Variation│               ▼     237   │        │ to modify │      │
         ▼            235          ◇──────◇       └───────────┘       │
      ┌──────────┐           ◇───────────◇  Modify──┘          ◇───────────◇
      │ Primary  │──────────►│   More     │                    │ "Are you  │
      │screen for│           │modification│                    │  sure?"   │
      │modification│          │     ?      │                    ◇───────────◇
      └──────────┘            ◇───────────◇                          ▲
                                   │                                 │
                                   └──────────No─────────────────────┘
```

FIGURE 23:

F

Routine for change of screen

Retrieve Profile **250** ◄──► DB-User Profile Table

Authorized for primary screen? **251** ──No──► "Not Authorized" **252** ──►

Yes

Variation req'd.? **253** ──No──► Display Primary Screen **254** ──►

Yes

Variation Screen prepared **255** ──► Display Variation Screen **256** ──►

FIGURE 24

DB-User	Primary Screen 1				Primary Screen 2											Primary Screen 3		
		Variation				Variation											Varia	
		1	2	3		1	2	3	4	5	6	7	8	9	10		1	2
DB-User 1		X			X											X		
DB-User 2		X				X											X	
DB-User 3			X						X									
DB-User 4		X					X											X
DB-User 5		X						X										
DB-User 6			X							X							X	
DB-User 7				X							X						X	
DB-User 8				X								X						X
DB-User 9			X										X					
DB-User 10				X											X			
etc.																		

Figure 25

Multiple Device-Users / Single Device (Code) / Multiple Location (Keypad)

CODE

2 Simple Device-Users w/Device Exchange

Now an Historical Record

Master Device-User

Single Device-User / Multiple Devices

Multiple Device-Users / Multiple Devices / Single Location

Simple Device-User

Simple Device-User w/Limited Data Management Privileges

View Only
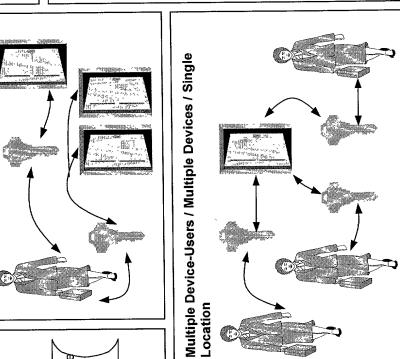
Full Database

Subset Database

Security Director w/Access to Every Location and Full Data Management Privileges

Full Database

Manipulate Access